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SCIENTIFIC NOTES AND NEWS.

LETTER OF THE LOCAL COMMITTEE OF THE SCIENTIFIC SOCIETIES.

Geological Society of America, American Society of Naturalists, American Physiological Society, American Morphological Society, Association of American Anatomists, American Psychological Association.

COMMITTEE:

PROF. E. D. COPE, *Chairman*, 2102 Pine Street (Am. Morph. Soc.).

DR. HORACE JAYNE, *Treasurer*, 19th and Chestnut Streets (Am. Soc. Nat.).

DR. HARRISON ALLEN, 1933 Chestnut Street (Assoc. Am. Anat.).

DR. EDW. T. REICHERT, Univ. of Pa. (Am. Phys. Soc.).

DR. W. R. NEWBOLD, College Hall, Univ. of Pa. (Am. Psy. Assoc.).

DR. PERSIFOR FRAZER, *Secretary*, 1042 Drexel Building (Geol. Soc. Am.).

PHILADELPHIA, November, 1895.

DEAR SIR: Every member of each of the above Societies will be notified by the appropriate Secretary of the date of meeting of his Society in Philadelphia. The meetings will be held in the University of Pennsylvania's grounds, either in the College Hall or in the building of the Department of Medicine.

The headquarters for all visiting members will be the Hotel *Lafayette*, situated on Broad street below Chestnut, a very short distance from the terminal stations of the Pennsylvania and Reading railroads. Its rates are \$1.00 and upward per day on the European plan, \$3.00 and upward on the American plan. The *Bellevue, Stenton and Stratford*, \$2.00 to \$5.00 (European plan); the *Metropole*, \$1.50 and upward (European plan), and the *Colonnade*, \$3.50 (American plan), are near by. The *Continental*, \$1.00 and upward (European plan) to those presenting this circular, and \$2.25 and upward (American plan), and the *Girard*, also \$2.25 (American plan), are both at Ninth and Chestnut streets. The *Bingham House*, at Eleventh and Market, opposite the Reading terminal station, charges \$2.50 (American plan). All these hotels are either directly on or not more than a block from the trolley cars which go directly out to

the University grounds on Walnut and Market streets and return on Chestnut and Market. The time required from the hotels to the University grounds should be less than 25 minutes.

The Trunk Line Association has granted the usual reduction of one and one-third fares for the round trip to those attending the meeting, and provided with certificates to be obtained from the ticket agents, who sell tickets from the points of departure to Philadelphia at one full fare each. These tickets must state that the object of making the journey is to attend the meeting of the _____ Society at Philadelphia. The certificates must be viséd by a representative of the local committee and of the Trunk Line Association, at the College Hall on December 27 or 28. The Secretary of the local committee has given his personal pledge to redeem at full fare any such tickets that may subsequently be found in the possession of 'scalpers.'

In order to facilitate the work, members are requested, as soon as possible after arrival, to register their names and the Society to which they each belong with a clerk who will be in attendance in College Hall.

A subscription dinner of the members of all the Societies, at \$2.00 per plate, will be given at the Hotel *Lafayette*, on the evening of Friday, December 27, 1895. You are requested to send word if you desire to participate in this dinner, and to pay the sum of \$2.00 to the Treasurer, Dr. Jayne, or his designated agent in College Hall, not later than noon on December 27, for each place which you wish reserved.

On Thursday evening, December 26, from 8 to 9 o'clock, Prof. Wm. B. Scott, of Princeton, will deliver an illustrated lecture before the visitors at the Hall of the Academy of Natural Sciences, 19th and Race streets, on 'the history of the lacustrine formations of North America and their mammalian fossils,' after which Dr. Horace Jayne will receive the members of the visiting Societies at his house, 19th and Chestnut streets.

DR. PERSIFOR FRAZER,
Sec'y Local Committee,
1042 Drexel Building, Philadelphia.

THE METRIC SYSTEM IN GREAT BRITAIN.

A DEPUTATION from chambers of commerce and other bodies waited on Mr. Balfour, First Lord of the Treasury, on November 20th, urging that the government carry out during the next session of Parliament the recommendations made by a committee of the House: That the metric system of weights and measures be at once legalized for all purposes; that after a lapse of two years the metrical system be rendered compulsory by Act of Parliament; that the metrical system of weights and measures be taught in all public elementary schools as a necessary and integral part of arithmetic, and that decimals be introduced at an earlier period of the school curriculum than is the case at present. Sir A. Rollet, who introduced the deputation, said that of sixty-eight chambers of commerce all but one favored the memorial. The present system was obsolete and disastrous to British trade, leaving it in a position of isolation. No proposal was made in regard to the coinage at present. Speeches were made by others, including Sir Samuel Montague, who said that if England adopted the metrical system the United States would also do so. Mr. Balfour in his reply expressed complete concurrence with the first and third propositions. He, however, thought that there would be very great difficulty in compelling every class in the community suddenly to alter its habitual practice in the weights and measures in which it deals. Mr. Balfour concluded by saying that while he looked forward to the time when the change could be made, he would like private enterprise to show that this can be done without inconvenience, and that it carries with it all the benefits which he, in common with them, attached to the metric system, and which it is absolutely impossible to associate with the arbitrary, perverse and utterly irrational system in which they had the misfortune to grow up. It follows from Mr. Balfour's address that that metric system will be at once legalized and instruction in it required in all schools, but that its general use will not be made compulsory at present.

PRESERVATION OF FORESTS.

THE report of the Hon. Hoke Smith, Secre-

tary of the Interior, pays special attention to irrigation and preservation of the forest. Mr. Smith says that there have been reserved from settlement, under the act of March 3, 1891, 17,000,000 acres of land as forest reserves. The object of these reservations is to preserve the forests themselves for future use, and through the preservation of the forests to protect and reserve the supply of water, so that it may be stored and utilized for irrigation. These forest reserves protect the head waters of many of the streams used for irrigation. If the depredations upon them continue at the present rate, they will, in a few years, be entirely denuded of their timber, and will thus leave the lands surrounding the head waters of irrigating streams subject to the direct rays of the sun, causing waste through floods at an early season of the year and the loss of benefit to the agricultural lands when the water is needed later. If, however, the timber lands are protected and kept intact, the melting of the snow will be gradual, floods will be prevented, and a flow will be maintained until late in the spring. The force of the General Land Office is, however, inadequate to protect the general reservations and the permits for cutting timber authorized by law have been much abused. Mr. Smith recommends the appointment of special agents to protect the forests against fire and depredation and that a rational system of timber cutting under competent supervision be substituted for the present system of timber permits. Mr. Smith thinks that it would be desirable to obtain, under the provisions of the constitution of the National Academy of Sciences, a report from that body upon the general subject of forestry administration in this country, particularly if it were possible for them to employ experts to collect statistical information as to the area, location and character of the wooded lands belonging to the United States.

FAST TRAINS IN GREAT BRITAIN AND THE UNITED STATES.

THE following are the tabulated figures of two fast runs in this country and of the record-breaking run, to date, in Great Britain, as made up by the Lake Shore Railway, which holds the record for the world. The second table is

published by the *Railway Master Mechanic* in its issue for November.

WORLD'S RECORD.

	LakeShore & Mich. South.	N.Y. Central & H. R. R.	West Coast Route.
Date.....	Oct. 24, 1895	Sept. 11, 1895	Aug. 22-23, '95
No. of cars.....	3	4	3
Weight of cars.....	304,500	358,310 lbs.	150,080
Starting point.....	Chicago	New York	London
Finish.....	B'ffalo Creek	East Buffalo	Aberdeen
Total distance in miles.....	510.1	436.32	539.75
Total time in minutes and seconds.....	481 m. 7 s.	411 m. 56 s.	512 m.
Average speed in miles per hour.....	63.614	63.55	63.25
Total time in motion.	470 m. 20 s.	407 m. 41 s.	505 m.
Average speed deducting stops.....	65.07	64.22	64.12
Length of division on which fastest average speed was made	86	145.6	141.25
Average speed on said division.....	72.92	65.75	67.50

DETAILS.—L. S. & M. S.

1 mile was made at the rate of.....	92.3	miles per hour
8 consecutive miles	"	85.44
33	"	80.6
85	"	72.92
181.5	"	(including stops) 68.67
181.5	"	(deducting stops) 69.67
289.3	"	(including stops) 65.14
289.3	"	(deducting stops) 66.68
422.7	"	(including stops) 64.45
422.7	"	(deducting stops) 65.89
510.1	"	(including stops) 63.614
510.1	"	(deducting stops) 65.073

In the last trial the work was done so easily, and the train moved so smoothly, that it is thought that the figures may be considerably improved upon. The English run included but two stops, the New York Central run three, and the Lake Shore five. The latter employed engines with steam cylinders 17 by 24 inches; the Central used 10 by 24, and the British engines were all larger. The Central train weighed over 250 tons, including engine; and the English, unusually light, even for English trains, weighed less than one-half as much. The latter could not carry passengers enough to pay costs; the former could carry 218 passengers. Neither, however, carried an ordinary load. The American line holds the record for a single, special, fast run over a long route, as well as that for a single mile—over 100 miles an hour by engine '999'—while the English, 'West Coast,' road has the fastest regularly scheduled long-distance train.

GENERAL.

THE annual meeting of the American Mathematical Society will be held at Columbia College, New York, on Friday afternoon, December 27th. The following nominations reported by the Council will be acted upon: President, Dr. G. W. Hill; Vice-President, Prof. Hubert A. Newton; Secretary, Prof. F. N. Cole; Treasurer, Prof. R. S. Woodward; Librarian, Prof. Pomeroy Ladue; Committee of Publication, Prof. Thomas S. Fiske, Prof. Alexander Ziwet and Prof. Frank Morley; Members of Council to serve until December, 1898, Prof. E. W. Hyde, Prof. W. Woolsey Johnson and Prof. B. O. Peirce. The President, Dr. G. W. Hill, will deliver an address at this meeting entitled 'Some Remarks on the Progress of Celestial Mechanics since the Middle of the Century.' Further information may be obtained from the Secretary, Prof. Thomas S. Fiske, Columbia College.

THE American Physiological Society will hold its eighth annual meeting in Philadelphia, Pa., on Friday and Saturday, December 27th and 28th, 1895. The sessions will be held at the University of Pennsylvania and at Jefferson Medical College. A Smoke-talk will be held upon the evening of Thursday, December 26th. The headquarters of the Society will be at the Lafayette Hotel, Broad street, near Chestnut street. Members of the Society will please inform the Secretary, Prof. Frederic S. Lee, Columbia College, at their earliest convenience whether they intend to be present at the meeting and what communications they desire to make. Those who will require apparatus or other necessities for the making of demonstrations will please communicate with Dr. E. T. Reichert, University of Pennsylvania.

THE American Psychological Association will meet at the University of Pennsylvania, on Friday, December 27th, at 10 A. M., and will continue in session through Saturday afternoon. Members should notice the information regarding local arrangements and railroad rates given in the circular issued by the local committee. On Saturday morning at 10 o'clock there will be a discussion on 'Consciousness and Evolution,' in which Profs. James, Cope, Baldwin and Dewey are expected to take part.

A STATUE in honor of Pasteur will be erected at Melun, near Fontainebleau, to commemorate his experiments in vaccinating sheep suffering from anthrax, which were first made in that district.

THE great Bruce photographic telescope having been tested at the Harvard Observatory will shortly be forwarded to the branch of the observatory in Arequipa, Peru. It will be taken by a steamship from New York to Mollendo, whence it must be transported a distance of about 75 miles by rail and 3 miles by road, which latter causes the most serious difficulties. It is proposed to undertake systematic series of photographs of the heavens, which, owing to the great power of the instrument and its favorable position in the southern hemisphere, will undoubtedly yield results of much scientific importance.

DURING the month of December the presidents of the Washington Scientific Societies deliver the annual addresses which are as follows: The Philosophical Society, 'Alaska as it was and is, 1865-95,' W. H. Dall; The Geological Society, 'The Origin of Hypotheses,' G. K. Gilbert; The Biological Society, 'The Practical Results of Bacteriological Researches,' George M. Sternberg; The Entomological Society, 'On the Phylogeny of Hymenoptera,' William H. Ashmead.

IT is reported that Prof. Dyche, of Kansas University has practically decided to make another trip to the Arctic Ocean, having received an offer of assistance from a source which he declines to name. His plan is to follow the west coast of Greenland, and then attempt to reach the pole by sledge or boat.

DR. EUGENE DUBOIS exhibited before the Anthropological Society of London on November 25th the remains which he has named *Pithecanthropus erectus*. In the discussion which followed, Sir W. H. Flower said that the fragments were so few that the essential point of difference between the human and the anthropoid forms could not with certainty be defined, but it showed more tendencies to the man side than any other remains he had ever seen.

MR. ROBERT T. HILL, Geologist U. S. Geological Survey, will deliver, in the Catholic Uni-

versity of Washington, seven lectures on General Geology, illustrated by the lecturer's researches in the United States, Mexico and Central America. The subjects are as follows:

December 5th.—'Modern Objects and Methods of Geologic Research.'

December 12th.—'Origin of Topographic Form.'

December 19th.—'Migrations of Land and Sea, as Exemplified in the Geologic History of the Gulf of Mexico.'

January 9th.—'The Mountain Systems of America.'

January 16th.—'The Great Plains and Basins of the Western Hemisphere.'

January 23d.—'The Relation of Geology to Civilization.'

January 30th.—'Future of Geologic Research in the Americas.'

IT is stated that Pasteur's will reads as follows: "This is my testament. I leave to my wife all that the law allows me. May my children never forsake the path of duty, and always cherish for their mother the tenderness she so richly merits. L. Pasteur."

DR. D. G. BRINTON and Dr. William Pepper have been nominated for the vacancy of vice-president of the American Philosophical Society caused by the recent death of Dr. W. S. W. Ruschenberger. Dr. Persifor Frazer and Mr. Patterson DuBois have been nominated for the secretaryship, vacant through the death of Henry Phillips, Jr. The elections take place in January and are exciting much interest in members of the Society.

THE Columbia University Press is shortly to publish an 'Atlas of Nerve Cells,' by Prof. M. Allen Starr, professor of diseases of the mind and nervous system in the College of Physicians and Surgeons. The illustrations were prepared with the assistance of Dr. O. S. Strong and Dr. Edward Leaming.

THE New York *Evening Post* states that the Perrine comet has been observed at the Yale observatory, and an attempt to photograph it was unsuccessful. It was rapidly approaching the sun with slight signs, if any, of a nucleus, appearing as about a star of the fifth magnitude, distinctly visible through an opera glass and almost visible to the naked eye. Since then the brightness of the moon has interfered with

observations, and they will not be resumed for some time.

A CABLE despatch from Naples states that Mount Vesuvius is in a state of eruption. Three distinct torrents of lava are flowing from Atrio del Cavallo, burning chestnut groves along their path and falling into the Vetrana precipice, between Monte Somma and Colline del Salvatore.

MR. HENRY SEEBOHM, the well-known British ornithologist, died in London, November 26th. He was an honorary member of the American Ornithologists' Union.

THE Sixth International Congress of Otology will be held in London, in 1899.

THE First Lord of the English Admiralty does not wish to receive a deputation at the present time on the subject of the renewal of Antarctic exploration under Government auspices; the reason being that all the resources of the Navy are at present required to place the English Fleet in a state of efficiency. Mr. Goschen expresses himself, however, as in sympathy with Antarctic exploration. A meeting of the committee that has been taking the lead in the movement will be held in a few days, and it is possible that they may decide to make an effort to interest the nation so far as to lead to a subscription sufficient to send out an expedition prepared to do two or three years' continuous work.

ACCORDING to *The Lancet* the foundation stone of a Museum of Anatomy and Surgery has been laid in St. Petersburg. The construction of such a museum was suggested by Prof. Ratimof, who is now President of the Pirogoff Chirurgical Society, and it is to be called the Pirogoff Museum. The scheme was well seconded; the Government provided 30,000 roubles towards the purchase and reconstruction of a building to contain the museum, and a sum of 60,000 roubles bequeathed to the Society by the late Countess Musin-Pushkin, to be expended on some memorial to the great Russian surgeon, has been put aside as an endowment of the new museum. The Society has purchased a building, used as a Government store since the time of the Empress Anna, appropriately situated on the banks of the Neva not far from the Army

Medical Academy and the large military hospital named after Sir James Wylie. The museum will be arranged on the lines of the Hunter collection in Lincoln's-inn-fields, London, and that of Dupuytren in Paris.

A RECENT return shows that during the year 1894 the cost of alcoholic drink consumed per head in England, Scotland and Ireland was respectively £3 17s. 4d., £3 1s., and £2 2s. 8d.

THE following results of experiments relating to the growth of trees at different times of the day have been sent to *Knowledge* by Mr. E. H. Thompson, the Government entomologist of Tasmania. Measurements were taken as far as possible every three hours, with the following results:

From 6 a. m. to 9 a. m.	$8\frac{2}{3}$	per cent. of growth.
" 9 a. m. to noon.....	$1\frac{1}{3}$	" "
" noon to 3 p. m.	No growth.	"
" 3 p. m. to 6 p. m.	"	"
" 6 p. m. to 9 p. m.	$1\frac{1}{3}$	per cent. of growth.
" 9 p. m. to 12 p. m.	$3\frac{1}{3}$	" "
" 12 p. m. to 6 a. m.	85	" "

The greatest growths in twenty-four hours were banksia rose, six and a-half inches; geranium, five and three-quarter inches; wattle, four and one-third inches; apple, two and a-quarter inches; pear, one and a-third inches.

ON November 1st a laboratory for study and research was opened in connection with the school of physical and industrial chemistry at 42 Rue Lhormond, Paris. By paying a fixed sum monthly to the city, anyone desiring to work in this laboratory will have all its facilities at his disposal.

THE publishers of *Knowledge* announce that the first colored astronomical plate ever issued in the magazine will appear in the January number. This will take the form of a colored drawing of Jupiter, which has been executed by Mr. N. E. Green, and reproduced by a special process. Amongst the special features for the new year there will be a paper on 'Scientific Geography in England,' by Dr. H. R. Mill, of the Royal Geographical Society, and the following series of illustrated articles: Mr. Vaughan Cornish, M. Sc., on 'Waves'; Mr. Theo. G. Pinches, on 'Akkadian and Babylonian An-

tiquities; Mr. R. Lydekker, on 'Fur-Bearing Animals;' Mr. H. B. Walters, on 'Greek Art;' Mr. J. Pentland Smith, Mr. Botting Hemsley and other well-known writers, on 'Botany;' and Mr. G. F. Hill, on 'English and Italian Medals and Coins.'

UNIVERSITY AND EDUCATIONAL NEWS.
THE BUILDING FOR PHYSICS AT THE UNIVERSITY OF KANSAS.

FRIDAY, November 22d, a building was dedicated to the work in physics and electrical engineering. This department at the Kansas institution is in charge of Prof. L. I. Blake, who has been attracting attention in late years by his experiments in sea telephoning and fog signalling. That Kansas should devote a building to the study of the most modern and the most interesting of practical sciences is but a sign of the spread of greater interest in knowledge, and the appreciation of the good to be derived from the laboratory. The new building, which has been in process of construction for two years, has been erected at the expense of the State, costing \$60,000. The walls are of Berea sandstone, and the inner furnishings of ash. As little iron as possible was used in the construction of the building, the water pipes being of brass and the plumbing fittings of copper. The heating is by the Sturtevant system, all conduit pipes being tiling. An elevator for freight runs the entire height of the building, four stories. At each landing is a room, which is the repair room and workshop for that floor. Leading directly from each of these workshops is a chemical kitchen. The basement floor contains a large general laboratory and four private research rooms. On this floor are the battery room and the room for testing instruments. On the first or main floor are the office of the assistant professor, a small lecture room, the department library and reading room, a general laboratory and two rooms for private research. The second floor includes the office of the head of the department, a small lecture room, two special research rooms, and a large department lecture room. The latter room has an inclined floor, and is fitted with a lecture table provided with all

connections necessary for the demonstration of lecture experiments. Adjoining this lecture room and opening into it is the apparatus room, where are kept the various instruments used in the laboratories and for the illustration of lectures. Each room of the building is provided with wires, carrying currents from the dynamos located in the machine shops. All wires enter the building in the basement and are carried to a 'well' which runs from basement to roof, and this 'well' is provided with switchboards at each floor and all wires run in it.

The principal address at the dedication exercises was delivered by Professor Albert A. Michelson, of the department of Physics of the University of Chicago. The subject taken for the address was 'Some Objects and Methods of Physical Research.' After the formal ceremonies of handing the keys to the university authorities, the building was thrown open to the public for inspection.

THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE.

THE Laboratory of Clinical Medicine given to the University of Pennsylvania by Dr. William Pepper, as a memorial to his father was formally opened and presented to the university on December 4th. The presentation was made by Dr. John S. Billings, in the name of Dr. Pepper, who described the building and its purposes.

The building is 62 feet long, 42 feet wide, and four stories high, with a basement cellar; built of brick and terra cotta on a stone base to the first floor, with a green slate roof, and fitted up inside with tables, work benches and apparatus of various kinds. On the first floor above the basement are rooms for microscopical, for chemical and for bacteriological investigations of the secretions, excretions, outgrowths, discharges and other products from the bodies of the sick, with a balance room. On the second floor are rooms for anthropometrical work and research, the laboratory of the Director and his assistant, and a store-room. On the third floor is a large laboratory for post-graduate students, and a dark room for photographers' work. On the fourth floor are a research room for special workers, an assembly room, a library and a janitor's room.